

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: sinned@VNET.IBM.COM
Subject: 1624
Message-ID: <199611072320.RAA18422@uro.theporch.com>

Except for the filament voltage, Barnacle Bob had it right: 2.5v DC
'polarized' filament, no-cathode 807/1625, that's a 1624.

Dennis W5FRS

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: Re: 5+ LBS of wirewound resistors SOLD
Message-ID: <2.2.16.19961107120638.1b970f46@fvmail.com>

Re: 5+ LBS of wirewound resistors sold
thanks

=====]-[->

Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: <http://www.jacksonmi.com/hammarlund>

HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT

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Boatanchors: the list: listproc@theporch.com.....subscribe boatanchors
<your name>

the news group: rec.radio.amateur.boatanchors
new group: ham-am@Listserv@ucsd.edu....Body: add ham-am

ME AND MY WIFE:

between the two of us, we know everything, what i don't know, my wife does,
and what she don't know, won't hurt her...8-) sssssh!

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: 5+ LBS of wirewound resistors fs/trade
Message-ID: <2.2.16.19961107093637.099f64c4@fvmail.com>

have approx 5 + pounds of wire wound, ceramic type resistors fs/trade

various sizes and wattages
all for \$30 shipped
anybody interested?

=====]-[->

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From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: fbsnyder@mail04.mitre.org (Forrest B. Snyder Jr)
Subject: RE: AOR DDS-2a for Collins
Message-ID: <961107082731.10190@mail04.mitre.org.0>

Dick Dilman wrote:

<snip>

>The DDS-2a is an external unit that generates each of the 132 spot
>frequencies at 200kc. intervals previously provided by the crystal
>pack. It thus makes a KWM or S series radio a general coverage set...

Also listed in the new EEB catalog from

Electronic Equipment Bank

323 Mill St. NE

Vienna, VA.

Phone (703)938-5309

SRI I don't remember EEB's 800 number, or the catalog page no. or price.

Forrest B. Snyder, Jr
N4UTY fbsnyder@mitre.org
RCVR: BC-348-R
XMTR: Johnson Adventurer -- Johnson Matchbox

40 Meter Center-fed Zepp

"Sure, it's 1936 technology, but it's GOOD 1936 technology!"

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Sandra L Knepper <slkst29+@pitt.edu>
Subject: RE: AOR DDS-2a for Collins
Message-ID: <Pine.GS0.3.95L.961107173316.18367A-100000@unixs3.cis.pitt.edu>

If anyone would like sales literature on this unit, please contact me.
Thank you.

David, W3BJZ
Publisher of the monthly Collins Journal

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Bringing xtals *down* in freq'y
Message-ID: <328179F8.2B2B@millcomm.com>

paul Veltman wrote:

>
> I've seen it done and did it a couple of times for novice band crystals
> with a very LITTLE jewlers rouge and a LOT of time.
> --

Ummm, but he was trying to bring them -down- in freq!! Unless you mean
you glued the rouge to the xtal....

I don't think there's any -practical- way to -lower- an xtal freq.
Anybody know otherwise?

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Bringing xtals *down* in freq'y
Message-ID: <32817B46.EEB@millcomm.com>

paul Veltman wrote:

>
> I've heard of that, but I've never seen it work. All the old heads I
> knew just said that it wouldn't work. The first question that comes to
> mind is won't the graphite work itself off the crystal over time?--

Paul is right I think. I've been told by 'crystal masters' that one of the biggest causes of frequency 'aging' in new crystals, back in the old days, was the leftover grinding compound gradually falling out of the little microgrooves in the crystal.

After all, there's a whole lotta shakin' goin' on in there....

Nowadays of course, everything's solvent bathed and ISO9000 perfect, right???

Richard Hager

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+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Hal Waite <halwaite@sprintmail.com>
Subject: Re: Bringing xtals *down* in freq'y
Message-ID: <32827448.28C0@sprintmail.com>

>
> I don't think there's any -practical- way to -lower- an xtal freq.
> Anybody know otherwise?
>
> Richard Hager
>

Many years ago I lowered the frequency of FT-243 xtals by lightly, very lightly, rubbing SOFT pencil lead (graphite) on a uniform area about 3/8"

in diameter. Unfortunately, too much loading will cause the crystal to refuse to oscillate.

Hal ex-K4GFI/7 K3AB/7

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: paul Veltman <veltman@netcom.com>
Subject: Re: Bringing xtals *down* in freq'y
Message-ID: <Pine.3.89.9611071522.A23793-0100000@netcom14>

>
> Many years ago I lowered the frequency of FT-243 xtals by lightly, very
> lightly, rubbing SOFT pencil lead (graphite) on a uniform area about 3/8"
> in diameter. Unfortunately, too much loading will cause the crystal to
> refuse to oscillate.

>
Now the \$64,000 question. How far did you lower them and how long did they last at the lower frequency?

Paul WA60KQ

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "William C. Robbins" <billrobb@net-link.net>
Subject: Bud Boxes
Message-ID: <199611072342.SAA13481@serv01.net-link.net>

I have a few Bud Boxes left that will go to the Ft. Wayne, IN hamfest if no one here wants them.

Bud Number	L	W	H	Mouser Price
CU-2109A	8	6	3-1/2	\$22.50
AU-1039HG	6	6	6	42.00
CU-2111A	12	7	4	31.50
CU-2112	17	5	4	33.30
No Number	10	6	2	17.00 Estimate Util Box

Please offer ONE PRICE for the entire lot.

Bill

William C. Robbins, WA8CDU ***Heathkit Collector***

billrobb@serv01.net-link.net

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: cap's - relays - & Rola fs/trade
Message-ID: <2.2.16.19961107161031.099f0562@fvmail.com>

all below prices include shipping
anybody interested?

1 BAG OF 20 NEW CAP'S (made in USA) @ 1200 MFD, 75 VDC \$18.00

RELAYS (34 total)
NEW IN BOX MIL. SPEC. # MK 1007, 12 VDC , 120 OHMS, DPDT
all for \$38 shipped

ROLA HEADSET ADAPTERS - FOR HEADSETS HS-33 OR HS-38
HIGH TO LOW IMP. MC-385-A & MC-385-C \$8 PR.

=====]-[->

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From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Dave Horsfall <dave@fgh.oz.au>
Subject: Re: CATHODE DEGRADATION
Message-ID: <Pine.SOL.3.95.961107171222.23779U-100000@fgh.fgh.oz.au>

On Wed, 6 Nov 1996, John Shriver wrote:

> Heater only (with no plate power) can also cause cathode interface.

Can someone explain this better, please? It's mentioned in the book on old CROs, but not explained (well).

I'm in charge of three battle-ship anchors at the VK2WI amateur broadcast station (weekly news from the Wireless Institute of Australia) and there are always disagreements on whether the 810s therein can be damaged by lack of HT when the filaments are on.

In case you're wondering, there are three units, AWA J54800, about as tall as I am, with two cabinets each about as wide as I am and twice as thick, on 160m, 80m, and 40m. I can't remember the precise details, but I think the modulator is a pair of 810s in push-pull, driving a pair of 810s in parallel. 500W of beautiful AM...

--

Dave Horsfall VK2KFU dave@fgh.oz.au Ph: +61 2 9957-4224 Fx: +61 2 9922-5286
FGH Decision Support Systems P/L, 77 Pacific Hwy, Nth. Sydney, 2060, Australia

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: John Shriver <jas@shiva.com>
Subject: Re: CATHODE DEGRADATION
Message-ID: <199611071604.LAA07148@shiva-dev.shiva.com>

Cathode interface is only a problem in heater-cathode tubes. Can't happen on a tungsten filament tube like the 810. Of course, the filament does have a finite life, as the tungsten evaporates and then condenses elsewhere in the tube.

Cathode interface is a case of the chemical coating on the cathode being poisoned by trace impurities in the nickel cathode sleeve. It essentially forms a leaky capacitor between the nickel and the coating. Kills the DC response of the tube.

Responding to an earlier question, I don't think that a little cathode interface is going to hurt an oscillator tube.

There were some late tube designs specified not to be subject to cathode interface. Very close control of impurities in the cathode was the trick.

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: cinchjones connectors fs/trade
Message-ID: <2.2.16.19961107082321.239f78ec@fvmail.com>

30 misc used small connectors various configurations
18 misc used large connectors various configurations

anybody want these for \$18 shipped?

=====]-[->

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From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: Re: cinchjones connectors fs/trade SOLD
Message-ID: <2.2.16.19961107093210.239ff7a4@fvmail.com>

Re: cinchjones connectors fs/trade SOLD

=====]-[->

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and what she don't know, won't hurt her...8-) sssssh!

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
Subject: Re: Current Inrush Protection for your Receiver
Message-ID: <v03007802aea793601bbf@[134.53.65.12]>

Hi Richard,

Thanks for your comments, which are very well taken. Here are my comments
on your comments!

>First and foremost, BE REAL CAREFUL ABOUT USING A SCOPE AS DESCRIBED ABOVE!!!
>

>Most scopes are grounded and you'll fry your brain, your rig, or something
>else

>if you screw up with this. Even running the scope on an iso-xformer isn't
>such

>a hot idea, but it will work. What's difficult is to remember that your
>scope

>is AC LINE HOT while working. The habits of a lifetime are hard to suppress,
>and you might just reach over to adjust the vertical gain, touch the

>frame, and

>ZAP! Better to run the rig on the iso.

Good point! My scope (a TEK 2236) has two channels, and I used it in the
differential mode (Channel A - Channel B). Scopes with single input
channels are a no-no for this application!

>Also, the spike size will be highly dependent on what exact instant the
>switch

>was flipped off; where the AC line cycle was at the time. I assume that Jim
>flipped on/off and measured a couple dozen times before deciding there was no

>problem, but since that wasn't specifically spelled out, I thought I'd
>mention

>it here.

Yes, I did -- but about 6 times, not a couple of dozen.

>Frankly, the MOV's are a good idea anyway. They're cheap, they work, and
>they'll clip all sorts of line spikes that might otherwise break down weak

>....
>

I agree completely.

Jim W8ZR

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Distributed 4CX250 amplifier
Message-ID: <328193C1.F14@millcomm.com>

William L. Fuqua III wrote:

>
> Some where, years ago, I saw a wide band distributed amplifier
> schematic. It produced hundreds of watts from 2 to 32 MHz and had
> a number of 4CX250's wired up using discrete delay lines (coils and
> capacitors) between them. I just wish I could find it again.--

Distributed amps are a fascinating subject! I'm kind of obsessed with them, as I am with sampling scopes....

Anyway, there is some helpful info in the Electronic Engrs Hbook from McGraw Hill. At least there used to be. Mine is an '88 or so. Also, Tek and HP were very active in the origination and development of this concept. The famous Tek 545 scopes used distributed amps, with about a mile of 6AU6's...and those beautiful 18" long lumped constant delay lines. Also, Terman's books have several formula's, and some info. Mine is a '57 I think, and has a section on dist amps.

There is a company in Germany that currently advertises a wideband lab amp in Microwaves/RF magazine. As I recall, they say it does DC-6 ghz!!

Anyway, I've built a few little ones, just to see how far I could push some nickel and dime 2N3904's (oops, sorry for swearing on the BA list), and it is not too tough a design exercise. The hardest part was figuring out a good physical component layout that minimized parasitics. Ain't that always the way? You've got a great design on paper, but just try putting that puppy in production....

Now trying it with 4CX250's...wow!...-that- sounds interesting!

I'd think it would put out thousands of watts, not hundreds, if you had the drive available. The reason the Tek's had all those tubes was to get

enough gain, not for power output reasons. In a dist amp, as in any amp really, you trade gain for bandwidth.

All devices have a certain 'gain bandwidth' and you gotta decide which is important. In a dist amp, it turns out there is an optimal per stage gain, regardless of your active device. I believe it's around 2.82 per stage, something to do with logarithms, etc..

However, I don't think you lose any power capability from your devices.

For the HP/Tek stuff, I believe they published several excellent articles in their 'journals' back in the 50's and 60's. You might try digging those up.

If you possibly can, I'd recommend going to a decent university engineering library and asking for help. You'd be amazed at the dusty but very neat things they have buried 'in the stacks'. Bizarre -VERY- high power amps for the original Tokomak fusion reactor, etc, etc.. Now -that- was a real firebottle amp!!

Anyway, they can help you do a complete lit search on the subject and you can while away a year or two chasing down all those intriguing leads you come across, on subjects you never even knew existed...

There is also a book, I believe from Artech House, currently available on dist amps. I tore out the magazine page with the book review, but don't have it handy right now. I've been saving it, but haven't ordered the book yet, 'cause it's \$120 !!! Artech House is a classy tech publisher, probably in NY, but not sure, that has all kinds of great books on things like dist amps, spectrum analyzer design, etc.. You need a card dedicated to them though...

Someday, when I'm finished going broke getting old test equip, I'll go broke getting fascinating books...

Good luck with the amp, and please email me on progress. I'd love to follow along on it, and help where I can.

Richard

Richard Hager

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+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -

+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: EF Johnson Part Question.....
Message-ID: <2.2.16.19961107154318.099f18d0@fvmail.com>

i have some EFJ part's # 762. this is a standup chasis mount RF choke....
these are new old stock...but, i don't know the value's of them....
and yes, if i can find the values..they are for sale also (only have 7 tho)
thank you, and thanks to all...
only have 32 EFJ 6.8uh @250ma left..they're going fast....

=====]-[->

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From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: EFJ chokes ---GONE
Message-ID: <2.2.16.19961107184216.0e972f98@fvmail.com>

all 68 boxes, have been spoken for.....
thank you

=====]-[->

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From boatanchors@theporch.com Thu Nov 7 04:06:54 1996

From: Richard Hager <rhager@millcomm.com>

Subject: Re: Explain the Process of Reforming Caps

Message-ID: <32818794.65B6@millcomm.com>

Henry van Cleef wrote:

>

> As Don Reaves discourses

> >

> >

> > I wonder if the life expectancy of an electrolytic is materially

> > increased by long periods of non-use followed by reforming vs.

> > constant daily use? Assuming the cap wasn't stored in a hot

> > attic or damp basement.--

In selecting new electrolytics for motor drivers, I noticed some
interesting graphs in the Nichicon and Marcon data books.

The typical 'big' electrolytic these days, say 10,000/50, is usually rated
for 2,000 hrs life -at the max rated temp-. This is typically 85 C, but
most switching supplies use the 105 C rated series of caps.

Anyway, if I remember correctly, the graph showed the life increasing
exponentially as the temp was lowered. This would make some sense, since
chemical processes follow the 'Arrhenius' law, which basically says that
the rate of a reaction increases logarithmically with temperature.

So, if you keep the cap cool, it will last a -lot- longer. If you can
arrange to have it run at room temp, it is likely to last 'forever', to
use a word sloppily...

It seems to me there was also a graph relating life to applied voltage. I don't recall it being logarithmic, but I am sure it showed a significant life increase as the applied voltage was lowered. Also makes sense from a chemical reaction standpoint.

I'm sure Barry could expound on the detailed theory of all this, but suffice it to say that if you use them conservatively in regards to voltage rating, and keep them cool, you'll be rewarded with very long life. Gee, that's not rocket science, is it? Just plain common sense...

PS: These data-books are available for the asking from any Nichicon etc. rep or distributor. They still make parts up to 450v, maybe 500, but whether stock is carried in US or not, I am unsure. They almost always have 'sample' stock though....

Richard Hager

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+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: k0az@i1.net (MIKE SANDERS)
Subject: FS SB110 and HW16
Message-ID: <199611080146.TAA17306@mail1.i1.net>

Greetings All,

I am listing this for another fella. I had listed this before and he got some calls but still has the stuff. Call Dale directly. I cannot offer any help on making a transaction with him. I do know the gear though. He can be reached at 314-337-7617 ask for Dale. The SB110 comes with the power supply and SP600 speaker as well as a desk mike. I think he has the original manual for it but not sure. No manual with the HW16. It is clean and works well. 250 for the 110 and 75 for HW16 are his asking prices.

I still have some stuff for local to St. Louis only deals. The NC183D is still available with manual copy for 200.00. I have two Gonset GSB100s that are project radios but have original manual with them. Also have a DX100B and a half that is a project plus new in the box DX100B cabinet. Anyone local to me interested in this stuff email me and we can chat about it. I have to whittle down the project pile as time is now a problem for me. I will list more later.

73, Mike K0AZ

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Bob Rolfness <rsrolfne@atnet.net>
Subject: FS: Manuals
Message-ID: <3282277D.6668@atnet.net>

Greetings -

Following manuals and documents for sale. Some listed before, some new.
\$10 each, plus postage. Have found \$3 for the first and \$1 after that
is about right. Should be the last time for posting the list.

73's Bob W7VZX

COLLINS SIGNAL Magazine Spring 1962
Condition: Excellent

COLLINS SIGNAL Magazine Summer 1962
Condition: Excellent

COLLINS SIGNAL Magazine Fall 1962
Condition: Excellent

COLLINS SURFACE COMMUNICATIONS EQUIPMENT
Catalog P/N 056 0682 00 July 1962
Condition: Excellent

COLLINS AMATEUR RADIO EQUIPMENT
Catalog P/N 056 0634 00 Feb. 1961
Condition: Very Good

COLLINS AMATEUR RADIO EQUIPMENT
Catalog P/N 056 0688 00 Feb. 1961
Condition: Good

COLLINS AUTOMATIC MESSAGE SWITCHING AND PROCESSING SYSTEM
General Description Booklet Early 1962
Condition: Very Good

VARIABLE FREQUENCY OSCILLATOR Model VF-1 Heath Company
Condition: Good [Construction marks]

AMATEUR TRANSMITTER Model DX-35 Heath Company
Condition: Good [Construction marks]

MULTIMETER TS-297/U TM 11-5500 AFM 101-10 Aug. 1948
Softcover with Supplement April 1952
Condition: Fair

INSTRUCTION MANUAL FOR MODEL 221 VACUUM TUBE VOLT-OHM METER
Eico Instrument Company Not Dated (Early 1950s)
Condition: Fair

OPERATOR'S MANUAL Model 260, Series III VOM
Simpson Electric Company Revised 1957 30 pages
Condition: Very Good

1.5 KVA KOHLER POWER UNIT MODEL IM21-A
TM 11-935 War Dept. March 1944
Condition: Good

FREQUENCY METER SETS SCR-211 A, B, through AL
TM 11-300 July 1944
Condition: Good (This is not the calibration book)

FUNDAMENTALS OF TELEPHONY
TM 11-678 March 1953
Condition: Very Good, Inked name on cover

BASIC THEORY AND APPLICATION OF VACUUM TUBES
TM 11-662 TO 16-1-255 Feb. 1952
Condition: Very Good, Inked name on cover

SPECIAL PURPOSE OSCILLATORS AND AMPLIFIERS
TM 11-670 July 1952
Condition: Very Good, Inked name on cover

RF TRANSMISSION LINES
TM 11-675 August 1951
Condition: Very Good, Inked name on cover

QUICK GUIDE TO MILITARY RESISTORS
Sprague Electric Co. ASP-364A 1965
Condition: Excellent

THE MOBILE MANUAL
ARRL 1960 Softcover 283 pages
Condition: Good

MARINE CREWMAN'S HANDBOOK
TM 55-501 Oct. 1967
Condition: Good

ANTENNA AND RADIO PROPAGATION

TM 11-666 Feb. 1953

Condition: Good, Inked named on cover

TRANSIENTS AND WAVEFORMS

TM 11-669 Nov. 1951

Condition: Good, Inked name on cover

RADIO DATA REFERENCE BOOK

Radio Society of Great Britain Second Edition

Hardcover 1967 150 pages

Condition: Good with torn Dust Cover, Inked Name inside

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996

From: Cal Eustaquio N6KYR <ceustaqu@dot.w6bhz.calpoly.edu>

Subject: FS: SX-122

Message-ID: <Pine.SUN.3.91.961107091159.11874A-100000@dot.w6bhz.calpoly.edu>

Hallicrafters SX-122 for sale. Good condx. Slight scratch on front panel on LHS. Powdercoated cabinet (looks great!). Needs alignment. No manual. Selling at a loss. \$90 plus shipping. Cal.

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996

From: Richard Hager <rhager@millcomm.com>

Subject: Re: Getters

Message-ID: <328196DA.BBE@millcomm.com>

berg stephen erik wrote:

>

> Is there any chance that Svetlana or some other outfit might make soome
> nuvistors? Does anyone here have any information on this?--

I have a very small quan of Nuvistors that I would part with for someone in need. Preferably not just for hoarding. Most are from Tek scopes, and I'd expect that they all work fine. Were pulled from working duplicate plugins. I believe one number is 7586, but there may be a couple other types. If you desperately need just one, that is where I'd like to see it go. I'm not really interested in selling them, but would help someone out who has a specific need and can't find it elsewhere.

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -

+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: John Shriver <jas@shiva.com>
Subject: Re: Getters
Message-ID: <199611071532.KAA02203@shiva-dev.shiva.com>

There seem to be enough NOS Nuvistors out there to meet demand. I've had no trouble scoring plenty of spares for my Tek scopes at \$1 to \$5 a pop at ham fleas. (Yeah, they are pricier at AES. Also there are is one very pricey audio preamp using them.)

Perhaps someone would design a guitar amp with a Nuvistor. It would give that Jimi Hendrix feedback sound at a much lower volume, since Nuvistors are so blasted microphonic!

Certainly, if you can make ceramic power tubes, you can probably make Nuvistors.

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: TEK0CH@aol.com
Subject: Re: Getters
Message-ID: <961107142934_1914899995@emout07.mail.aol.com>

I have two 6CW4 nuvistors if that will help you or someone else out. They were given to me so I will pass them on for what I paid for them. \$ 0.00

Tom Koch - W4UOC
tekoch@aol.com

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Richard Post <POST@ouvaxa.cats.ohiou.edu>
Subject: Grid emission tester (was gassy tubes)
Message-ID: <A4312ZW0HI1MA1*/R=OUVAXA/R=A1/U=POST/@MHS>

Mike k aa9rg wrote,

>Grid emission here will pull your AGC voltage down and maybe even
>positive, leading to strange problems in rx performance. You'll think you
>have a leaky AGC cap or something.

>

>I once had a little test set for TV servicemen to check RF/IF tubes
>for grid emission, for this very reason.

I've got one of these. It's a Seco VT Grid Circuit Tester. Mine is model GCT-8. It has round tuning eye tube (not very tall) as indicator and shows grid emission for a variety of tube types, including most of our favorite octal and miniature RF/IF tube types. Easy to use. Has a number of sockets, each with a specific circuit and the corresponding tube types engraved right on the panel. It's not very large but it's the only one of its kind I've ever seen.

Something to keep an eye out for at your favorite ham fests.

73, Rich KB8TAD

<http://ouvaxa.cats.ohiou.edu/~post/PIX/BA.HTML>
<http://www.library.ohiou.edu/MuseumR&T/museum.htm>

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Joseph W. Pinner" <kc5ijd@net-connect.net>
Subject: Hallicrafter's Keyer
Message-ID: <199611072103.PAA18524@dns1.net-connect.net>

Sorry to take up bandwidth, but my EMail system crashed and I have permanently lost all my mail for the past year.

I sold a Hallicrafter's Keyer to someone on the new and cannot locate their address. Unfortunately, the check was deposited so I can't get info from there.

Please contact me as it is ready to go pending address.

73

Joseph W Pinner
Lafayette, LA
KC5IJD
EMail: kc5ijd@net-connect.net

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: Hamr', Drake, B&W, Ten-tec, Ameco..new old stock fs/trade
Message-ID: <2.2.16.19961107171052.239723d8@fvmail.com>

have these to sell/trade:

Hammarlund 'S' meter new old stock sp-200/400/129X \$33 ship'd
Drake new old stock TV-1000LP 1kw lowpass filter \$25 ship'd

Ten-Tec - Ameco & B&W are new old stock
241 Crystal Oscillator \$33
shipped
Ameco:

PS-1 POWER SUPPLY		\$25	shipped
PS-2 POWER SUPPLY		\$25	shipped
CLB CONVERTER	2-54mc		\$18 shipped
CHT CONVERTER	108-174mc	\$18	shipped
CG CONVERTER	450-470mc	\$15	shipped
CLG CONVERTER	75meter	\$15	shipped
ADVANCED CODE SET-	78 RPM	\$20	shipped

B&W 40 meter balun 1kw 1:1 \$40 shipped

=====]-[->

Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: <http://www.jacksonmi.com/hammarlund>

HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT

=====]-[->

Boatanchors: the list: listproc@theporch.com.....subscribe boatanchors
<your name>
the news group: rec.radio.amateur.boatanchors
new group: ham-am@Listserv@ucsd.edu....Body: add ham-am

ME AND MY WIFE:

between the two of us, we know everything, what i don't know, my wife does,
and what she don't know, won't hurt her...8-) sssssh!

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Glenn Finerman <GFINER@nms.com>
Subject: Handbooks ??
Message-ID: <s281b99f.076@nms.com>

(I've also posted this request on Glowbugs)

Does anyone have some ARRL handbooks from the 1950's (except

1956) they would be willing to sell? I'm trying to collect all the tube transmitter circuits from that period and copy them into my own personal "Glowbugs Cookbook".

Don't have to be in good condition...torn / missing covers ok!

I'm hoping some of you kind folks may have some duplicates copies you would be willing to part with.

Thanks....

73.....Glenn N2BJG gfiner@nms.com

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996

From: "Pentti Haka" <pha@mikrolog.fi>

Subject: HB tube thread

Message-ID: <MAILQUEUE-101.961107155502.352@osku.mikrolog.fi>

Hi BA gang!

Two comments to the ongoing discussion about homebrew tubes.

1) In the latest issue of Scientific American there was an article about producing high vacuum at home. If I remember correctly, the method was some kind of cryogenic absorption system - I am not an expert on this subject! I do not remember the level of the vacuum produced. There was even a kit offered, for about \$60, that contains all the "more exotic" materials (liquid nitrogen not included, I suppose).

2) Yesterday I got an email from Robert Losonci. He is planning to have a batch of VY2 tubes produced at Tesla in Slovakia. This is an European pre-WW2 rectifier tube, which is now very scarce and wanted by many radio restorers. I do not think Mr. Losonci will mind my forwarding his letter to this group. If nothing else, it will give an idea about the quantity and cost required to produce a batch of vintage tubes in a modern? tube factory.

BTW, his reference to "Little H" means "Little Hitler". This is a nickname for a very common, simple and cheap German BC receiver that was produced in late thirties (I think). VCL11 is a combination triode/pentode, used in the audio stages of this receiver.

----- Forwarded Message Follows -----

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996

From: "Pentti Haka" <pha@mikrolog.fi>

Subject: HB tubes thread

Message-ID: <MAILQUEUE-101.961107130443.384@osku.mikrolog.fi>

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I have two comments to the ongoing discussion about homebrew tubes.

1) In the latest issue of Scientific American there was an article about producing high vacuum at home. If I remember correctly, the method was some kind of cryogenic absorption system - I am not an expert on this subject! I do not remember the level of the vacuum produced. There was even a kit offered, for about \$60, that contains all the "more exotic" materials (liquid nitrogen not included, I suppose).

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----- Forwarded Message Follows -----

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996

From: Richard Hager <rhager@millcomm.com>

Subject: Re: HB tubes thread

Message-ID: <32828272.63D6@millcomm.com>

Pentti Haka wrote:

> 2) Yesterday I got an email from Robert Losonci. He is
> planning to have a batch of VY2 tubes produced at Tesla in Slovakia.
> This is an European pre-WW2 rectifier tube, which is now very scarce
> If nothing else, it will give an
> idea about the quantity and cost required to produce a batch of
> vintage tubes in a modern? tube factory.
> but we need a quantity appr 30
> tausend psc with it the price will bee DM 20,-/pc ntto .--

Wow! That -does- give one an idea of the cost, and it gives one pause!

Let's see....30,000 X 20DM, that's 600,000 marks! I don't remember offhand how many marks to a buck, but I'll bet it's -still- a whole lot

of bucks.

Thanks for the info Pentti.

One more thought for the thread:

Has anyone thought or spoken about -repairing- tubes yet? Perhaps that would be a more fruitful area to explore. Most of the material sourcing problems that Barry mentioned would go away. Of course, many other issues remain, but at least the end result would be a tube that -would- be usable in a commercial BA. Worth thinking about?

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: jcreid@CCGATE.HAC.COM
Subject: Home brew tubes
Message-ID: <9610078473.AA847380085@CCGATE.HAC.COM>

Gang,

If any of you are really serious about making your own tube, just to say you did it, give a call to George Schmermund at 619-727-6933(San Diego, CA). He has put together a tube "kit" that allows anyone with enough manual dexterity and a decent vacuum pump to build a simple triode. The finished product is very much like the original DeForest audion tube. The kit includes all the parts and a very detailed instruction manual. I spoke with George earlier this year and he sent me all the particulars including some very nice black and white photos of the completed tube. As I recall the price was right around \$250-\$300. Additional kits were around \$125 since you don't need to double up on the tooling parts. So if you feel the urge to do it yourself, give George a call.

-Jim N6SVS
jcreid@ccgate.hac.com
Gardena, CA

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: berg stephen erik <z931086@corn.cso.niu.edu>

Subject: Re: Homebrew Tubes & Nuvistors

Message-ID: <Pine.3.89.9611071001.C15090-0100000@corn.cso.niu.edu>

Many thanks for the offers of nuvistors. I have a few spares since most of my VHF equipment uses these little tubes. I was not really looking for a bunch of new ones, but instead was wondering if there was any new production of them, or even improved models on the market. They are decent for use at high frequencies, even if they are prone to microphonics. As one of the last gasp of superior technology, and designed for easy high quantity production, they might well be good candidates for further development.

As for Richardson Electronics in the tube business, the sad truth is that they were forced out of much of their manufacturing business by the morons in the Bush administration. It seems that the bureaucrats noticed that Richardson had "cornered the market in an essential area", that is, vacuum tubes! The company fought back, but had to finally settle and now we have to buy foreign made tubes since Richardson cannot make them here. This was detailed in a Chicago Tribune article some time ago. Now Richardson is largely into component distribution. They are about 15 miles from my QTH, and I have bought a number of tubes and sand lumps from them over the years.

73,

Steve WA9JML

z931086@corn.cso.niu.edu

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996

From: "Barry L. Ornitz" <u856010@eastman.com>

Subject: Homebrew Tubes - Again (long)

Message-ID: <Pine.ULT.3.91.961106200228.21663A-1000000@dua150.kpt.emn.com>

On Fri, 1 Nov 1996, Al Marshall wrote:

> Always one to flog a dead horse, some things just get to me and I can't
> let go of them. First, as to the April Fools' issue (not rased by you)
> I have not yet located Mr. Pumara, but I have located Mr. Volz, jr. who
> supplied the photos for the article and will try to locate Mr. Pumara
> via this route.

Flog away, Al! :-)) I believe it was Bill Hawkins that mentioned April Fools' issue, not I. For Mr. Pumara, I suggest:

Sam D Pumara
Pine Grv Mls, PA 16868
(814)238-8047

I found several Volz's with corroborative information in several online searches but found Mr. Pumara in only one database. I suspect the information may be out of date. I sincerely wish he is still around (and as you said, I would love to chat with him).

> While you have (as always) very sound data and comments
> on the problems of tube construction, you are in this case, IMO (sorry
> about lack of 'H' ;-)) commenting with out checking the data, namely
> the article.

Ah, but I did read the article and I completely stand by my original point as stated in my October 30 post:

> This subject comes up periodically on this group and it stirs up lots of
> speculation. Based on what I have read about the requirements of vacuum
> tube manufacturing from the following two references, I will firmly state
> that I believe home-brewing of a vacuum tube of the likes of an 807 is
> completely impossible. Is it possible to make even any kind of vacuum
> tube at home? Of course it is, but an individual with even the best
> equipped home shop is never likely to get beyond a simple DeForest audion
> - low gain and gassy.

In a later reply, again on October 30, I reiterated this point;

> Please carefully read what I said. Making a tube with a real, measurable
> amplification factor is certainly possible at home. To do so is not
> trivial by any means and I suspect it would take a real artisan to do the
> job. What I said, though, was that an individual could not turn out an
> 807 at home. This means a tube that is reproducible and interchangeable
> with a commercially manufactured 807 with well-defined specifications and
> capabilities, with no gas and with a reasonable operating life. The
> Chinese are still having trouble in this regard!

Note that I am talking about an 807/6L6/6146 family tube. I believe the 807 dates to 1938 and the others are successive generations of the basic beam power tube embodied by the 807. I am using this tube as an example of "modern" tube construction. Perhaps a better way to say this is a 3rd generation tube with the 1st generation being the first commercial DeForest audions, and the 2nd generation being the tubes of the late 1920's and early 1930's. The next generation after the mass-produced octals would be the septar and noval receiving tubes eventually followed by the nuvistors. You can probably throw in some dead-end limbs on the family tree with acorns, loctals, peanuts, and compactrons; perhaps the experimental field emitter vacuum silicon devices of today follow the

nuvistors. I chose the 807 as an example of an early "modern" tube. I could have use a 12AU7, 6AU6, 6BE6, etc. instead, but these would be even more difficult than an 807.

Al continues:

> Mr. Pumara addresses every point you have mentioned, and
> more, such as out gassing, glass seals, etc. In addition of the example
> tubes receiving as well as transmitting (no 807s I can see) mostly in
> the style of 20's and 30's tubes. Some are said to be 'clones' of tubes
> such as the WD12, and others named only by country of origin. From what
> I read in the article (filament life and grid construction) I get the
> impression that at least some of these tubes were used in the real world.

I beg to differ here. Pumara mentions being able to achieve NEARLY $1E-8$ Torr. Remember my references mentioned this to be "experimental" quality vacuum. Spangenberg's book on vacuum tubes (1948) mentions this as the point where gettering is needed. Additional ion pumping and gettering must be utilized to achieve better vacuums. Looking carefully at the pictures in the articles, it does not appear that Pumara used any getters. There is considerable darkening of the glass from the forming process but getters seem to be absent. I will grant that to show the internal construction of the tubes, these may have been omitted, but nowhere in the article are getters even mentioned. Pumara does mention using electron bombardment to heat the internal elements of the tube rather than an induction heater. Unless extra leads through the glass are provided for firing a getter, an induction heater will normally be required to utilize a getter.

As to glasses used, Pumara mentions Nonex, soda, and lead glass with Dumet or copper seals. Yet he states earlier in his article that he uses entirely Pyrex with tungsten wire and uranium glass seals. All the cathodes in Pumara's tubes seem to be direct filament cathodes, not the coated cathodes of more modern tubes. In fact he says he uses mainly tungsten and thoriated tungsten wire. His grid wire (nickel or possibly molybdenum and tungsten) has a rather large diameter to make small receiving tubes (10 to 15 mils).

Basically what Mr. Pumara has achieved is early 1930's capabilities in tube performance and construction.

Al's next comments seem totally out of line to me.

> I confess that I am a bit upset by some of the reactions on this issue.
> Not on my part, but because I think Mr. Pumara must have been quite a
> guy, "maybe I am" (a nut) he says at the end of the article, who's love
> of vacuum tubes is quite beyond anything I have come across todate.
> And here he is being fobbed off as an April Fools joke, or someone who

> just turned out the crudest of tubes, to be tossed into the dust bin of
> history by people who will not (refuse?) even review this one bit of
> information on his work.

> My offer of copies of this article still stands.

Note in my earlier posts I said artisan and never mentioned April Fools jokes. Pumara's tubes are almost state-of-the-art for the late 1920's; something to be quite proud of to have been produced at home. But they are a far cry from the mass-produced modern tubes. As for refusing to read the article, I told Al I did not want him to send me a copy because I had the issue at home. Al, I believe you are reading things in my writing that I have been extremely careful to avoid - or else you are confusing my comments with those of others.

As to making "modern" receiving tubes at home, I firmly believe this is basically impossible today. In fact, it might be far more difficult to do today what Mr. Pumara did in the 1960's with the fewer basic tube manufacturing materials readily available in the 1990's.

Radio-grade muscovite mica was extensively used to produce internal insulators and spacers in tubes. A potassium aluminum silicate, it is one of the best natural insulators known. But try to buy the dehydrated, vacuum-baked material today. In the 1950's the mica mines in nearby Spruce Pine, NC, were quite active. Today, I think only one is open and it produces a fraction of what it used to. In fact, I saw some "dipped mica" capacitors recently that turned out to be really Mylar caps. The last time I mentioned mica, someone in Alabama said there is still some limited production there. Most mica today is ground and used as a filler material for plastics; it provides better gas diffusion properties (lower) than talc and calcium carbonate fillers.

The metals used in tubes are also not readily available today either. Sure - nickel, tungsten, and molybdenum are commercially plentiful. But the specially processed, low-outgassing grades are not needed today as we no longer make vacuum tubes in this country. Getters were discussed in a previous post. Can you buy nickel-clad getter wire easily today? I mentioned the Chinese tubes and the fact many quickly become gassy in operation, particularly the 6L6 types for medium power audio applications. Bill Sorsby mentions this issue but I feel his explanation is entirely wrong:

> It's worth keeping in mind that complex manufacturing processes may be
> complex for reasons relating only to efficiency and producibility.
> Similarly, just because the Chinese don't manufacture quality vacuum tubes
> doesn't mean that it can't be done with simple equipment. I would suggest
> that the poor quality of Chinese vacuum tubes reflects largely upon the
> attitudes of the individuals involved in the process. Even the simplest of

> products are routinely botched by incompetent manufacturing.

I have no direct knowledge of Chinese tube manufacturing, but I do of their printed circuit board facilities. I can assure you that the Chinese are doing all they can to make quality products for the export market. This may not be true for internal markets, but exports bring in cold hard cash to their economy. Exported PCB products compete with any other Asian producers as far as quality goes. Many domestic products are routinely botched in the USA too.

I believe what is really happening is the poor quality of the molybdenum used in making the plates of these medium power tubes. Molybdenum easily forms the hexacarbonyl which dissolves in the metal and comes out when it is heated under vacuum. To produce the metal without this requires reacting the metal with hydrogen and thorough vacuum outgassing to remove the dissolved water molecules formed. Nickel, used in lower power tubes, is not subject to the same outgassing problems. [Nickel tetracarbonyl is formed at temperatures below 200 C but is destroyed at higher temperatures. If anyone is interested, I am one of the few world's experts in monitoring nickel carbonyl in ambient air. It is NASTY stuff.] The Chinese seemed to have had early problems with graphite anodes too. Historically, the Chinese have never been the world's leaders in industrial metallurgy - but they are fast learners.

> It's worth noting that most attempts at producing vacuum tubes have
> resulted in high quality products, even when done in semi-industrialized
> and/or economically deprived regions. The Chinese attempt appears
> atypical.

I wish Bill would elaborate on this statement some more. The Russian tube factories have been around a LONG time as have those in Hungary and Poland. The next time you buy an American name-brand light bulb, look carefully to see if it was really made by Tungsham in Hungary, the world's largest light bulb manufacturer. Vacuum tube manufacturing requires the industrialization level of only the 1950's to supply the world's needs for vacuum tubes.

For some strange reason, many of the readers on this list WISH to believe that vacuum tube production is easy and the USA can reenter the market as soon as the "price gets right". I seriously doubt this. The mass production of vacuum tubes in the USA is almost at the point of "lost technology". This is nothing new, however; many technologies fall into this category. The last time I visited the Johnson Spaceflight Center near Houston, I was impressed by the cut-away Saturn V they had there. Could it be built today? NO. It would even take several years just to reinvent the technologies used to build it. Look at what happened when the Space Shuttle was grounded and we had to go back to surplus military rockets to launch satellites into orbit - and how many were lost!

I think we can expect to see improvements in the Chinese vacuum tube quality, but that the days of being able to buy just any new vacuum tube are long over. The Chinese will produce the popular types, i.e. those that can be sold in reasonable quantities. Let the tube audio crowd pass through its fad and see how long even these tubes will be available. My point is that we should consider the existing inventory of vacuum tubes to be all there is, and all there likely will ever be. The idea of homebrewing a vacuum tube is intriguing but not very practical. You may be able to keep that old regenerative set with an 01A triode going with a homebrew tube, but not that Collins, Drake, or other gear that depends on the reproducible characteristics of "modern" receiving tubes.

So Al, I hope you understand I am not demeaning Mr. Sam Pumara in any way. He was (is?) an artisan but unless he has advanced at least a level in technology over what was described in the 1965 article, he has not produced an 807/6L6/6146 much less a 12AU7, 6AU6, 6BE6, etc. I hope I am wrong and that homebrew tube construction is still within the realm of an advanced amateur. But I will continue to doubt it until someone produces more convincing information. Please let me know if the address and telephone number I found for him is correct.

[BTW, I am sorry to be so late in replying. I rarely read my email over the weekend and I was occupied elsewhere yesterday.]

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Homebrew Tubes - Again (long)
Message-ID: <3281A63A.5892@millcomm.com>

Barry L. Ornitz wrote:

.. a number of incisive comments on HB tube making....

However, I'm one of those that likes to explore these things just for the mental exercise of it. It keeps my 'creativity' sharpened, and that pays off in my job, which is to bring hi-tech equipment to the small shop affordably. This HB tube thing fits right into that theme, although I agree with Barry that it would be a very difficult thing to accomplish.

Sooo... I want to offer a couple quick comments:

First, I think there's been some semantic confusion going on. Most of the people saying 'impossible' really mean 'highly impractical', I think.

Second, I'm not sure that all of us involved in this discussion are even talking about the same goal. Let's define that first. Is it to make an 807, or any other tube required for a commercial rig? If so, I think we have a daunting task ahead of us, one that would require a considerable amount of industrial/lab grade equipment and a big big pile of expertise. Not to say it couldn't be done, but you would definitely need good contacts in the surplus world and maybe 100-200 grand (that includes a bit for facility prep in addition to the equipment).

Or is the goal just to make a workable tube? Not one that has to match any particular part number, but something that could be used in a HB rig? If that's the goal, I believe it to be much more doable, but -still- a very complex, difficult, and lengthy project. It will probably cost somewhere in the \$25K range, again assuming good industrial/lab surplus contacts and a good knowledge of the field. These numbers are just a swag (-scientific- wild ass guess).

A brief side note: I'm wondering if it wouldn't actually be -easier- to produce large power tubes than small rcvg types. The larger size and spacing would make it easier to procure grid wire, etc, and easier to meet tolerance specs and assy issues. I'd think that a power triode for 160m - 80m would be a much easier tube to make successfully than say, an 807 or equiv. Comments welcome from the experts...

Finally, there was some mention of possible US -production- of tubes. That's a whole different story. I don't agree with Barry there. I think that could be accomplished by any competent management team, and the materials are certainly readily available. If Svetlana has access to them with rubles, someone here could certainly purchase them with dollars. However, I would not hazard a guess at what the per tube price would be from such a venture! That would be entirely dependent on volume, etc., but I'm sure none of us would like it!

I would like to add to the above that I've been amazed in the past ten years to see several production processes vastly simplified and automated over what they were formerly. I see no inherent reason why tube making couldn't have some modern thinking applied to it, especially in the realm of a small scale automated and process-controlled facility.

Solar cells used to be \$1000/watt, and a hugely complex process too, but now they're making them for pennies, on web feeds similar to a printing press, and with silkscreening. I'm not suggesting that a tube plant would be a good business venture, as I don't know the market, but I'm positive it could be done, and a small one for probably not much more than a few million investment....

Anyway, I think it would help the discussion tremendously if we all picked just one goal to talk about for now. We can always pick a different goal later on.... This would make it much easier to keep the discussion reasonable and practical....and on an even keel!

A few specific comments follow...

> Pumara does mention using electron bombardment to heat the internal elements
> of the tube rather than an induction heater. Unless extra leads through the >
> glass are provided for firing a getter, an induction heater will normally be > >
> required to utilize a getter.

An induction heater at the low power level required would not be very tough.
They had the technology back then too. I would hazard an un-researched guess and
say that practically any MF/HF xmitter could be made to work for this job.

> In fact, it might be far more difficult to do
> today what Mr. Pumara did in the 1960's with the fewer basic tube
> manufacturing materials readily available in the 1990's.
> But try to buy the dehydrated, vacuum-baked material today.
>
> The metals used in tubes are also not readily available today either.
> Sure - nickel, tungsten, and molybdenum are commercially plentiful. But
> the specially processed, low-outgassing grades are not needed today as we
> no longer make vacuum tubes in this country. Getters were discussed in a
> previous post. Can you buy nickel-clad getter wire easily today?

As I mentioned above, there are mfg's buying such materials right now. If you
have US dollars, I'm sure the makers would be more than happy to sell to you and
FedEx will gladly bring such materials to you from anywhere on the planet.

> > It's worth keeping in mind that complex manufacturing processes may be
> > complex for reasons relating only to efficiency and producibility.

I too have run across a number of cases where a mfg process was designed for a
specific volume level, or simply because 'we've always done it this way'. I've
seen several cases where new producers started with a significantly different mfg
flow and ate the older competitor's lunch, especially in small niche markets.
Haven't done the research to know if tube making falls under this heading, but it
sure happens a lot these days, where someone comes up with a much simpler way to
make something.

> I have no direct knowledge of Chinese tube manufacturing, but I _do_ of
> their printed circuit board facilities. Exported PCB products compete with any
> other Asian producers as far as quality goes.

Perhaps Barry is more familiar with 'lab-grade' Chinese pc boards. His statement
is not true of their commercial grade boards. They are noticeably inferior to
Taiwanese or Korean boards. The gold plating is very poor, you'll find many
traces with pits or edge defects, and they appear to still have problems with
adhesion on the walls of plated through holes. Perhaps they only ship their
worst products into the PC market, but you don't see boards like that coming out
of Taiwanese shops any more.

I think Barry may have been oversimplifying a little. Yes, the Chinese can make a good product when they want to, but in general their goods are inferior to other Asian countries; in pc boards, in machine tools, and probably in other areas that I'm not so familiar with. I recently posted here on one reason why that's so, and it has to do with their politics, not their inherent craftsmanship. Ever look at a Ming vase....?

> the days of being able to buy just any new vacuum tube
> are long over. The Chinese will produce the popular types, i.e. those
> that can be sold in reasonable quantities. Let the tube audio crowd pass
> through its fad and see how long even these tubes will be available. My
> point is that we should consider the existing inventory of vacuum tubes to
> be all there is, and all there likely will ever be.

This I think is 100% correct. 'Hoarding' may not be appropriate yet...but I wouldn't go throwing -any- of 'em away either...

> The idea of homebrewing a vacuum tube is intriguing but not very practical.
> You may be able to keep that old regenerative set with an 01A triode going
> with a
> homebrew tube, but not that Collins, Drake, or other gear that depends on
> the reproducible characteristics of "modern" receiving tubes.

I think it is -possible-, but I am frightened just by stray thoughts of how many THOUSANDS of hours it would take to learn all that would be needed. I suggest that those seriously interested begin an effort to locate some people that actually used to work in the field, for RCA, Syl, GE, etc..

Think about the wonderful articles that Hank van Cleef wrote on some of the issues involved in producing Tek 580 series scopes. That's the kind of insight needed here. We need someone -who's done it- to offer a guide to what's critical and what's not: 'this won't be a problem, but you have to really pay attention to that'. That sort of knowledge.

> I hope I am
> wrong and that homebrew tube construction is still within the realm of an
> advanced amateur. But I will continue to doubt it until someone produces
> more convincing information.

I'd like to mention that several members of the Bell Jar amateur high-vacuum group are working on building their own Scanning Tunneling Microscope, and from skimming their plans I think they have a good chance of ending up with a usable instrument. If you had asked me ten years ago if it was possible to build one of these at home, I would have said 'impossible'. I was wrong. Most people considered it impossible for anyone to have CNC machining capability at home, but we sell hundreds of systems a year now, and many end up on kitchen tables and in basements and garages. This was completely unthinkable just ten years ago.

As I said at the beginning of this, I'm getting a ton of value just from the discussion itself. My purpose is not to argue with Barry or anyone else; I just think there's value in batting around ideas and identifying the critical areas. Once that's done, we could make a much sounder assessment of the 'possibility', practicality, and even desirability, of such an effort. Heck, I was offered a whole electron microscope yesterday for three grand! Complete with high-vacuum pumping system. Now if I only had the hours available to learn how to use, and maintain, such a beast, sigh....

Richard

--

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: John Shriver <jas@shiva.com>
Subject: Re: Homebrew Tubes - Again (long)
Message-ID: <199611071612.LAA08549@shiva-dev.shiva.com>

The real issue with making tubes (profitably) in the USA is that you have to compete with the incredible hoards of NOS tubes that the DoD is dumping on the surplus market for pennies on the dollar. Quite a challenge. You also have to compete with Svetlana, who is making a damn good tube now, but only in high-volume numbers.

Certainly, Richardson still is making some in the USA, but they are VERY expensive, basically RADAR tubes.

The GE brand of tubes (made by MPD), which was the last line to shutdown, had to quit due to supply problems. GE had used a plate material which was a sandwich of copper, iron, and nickel since the 1950's. It was made by Texas Instruments. TI stopped making it, no other source. Sure, they could have redesigned the tubes to use nickel plates like RCA did. But that would have been a lot of design and tooling work, which cost could not be recovered. So they made a final order from TI, based on a final order from Richardson (primary wholesaler of new tubes in US). When that was done, they shut down

the line. (Dunno why Richardson didn't make a bigger last order of 7591A's.)

There are other materials issues. Like the cathode sleeves. The impurity levels have to be very low, otherwise you get cathode interface. There probably is now no commercial call for Nickel sleeves in those purities.

The grid rods have to be centerless ground to very precise dimensions. So forth.

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Spencer Petri <spetri@e-tex.com>
Subject: Humongus Bargain part 2
Message-ID: <m0vLdqT-0002FkC@e-tex.com>

In response to a question asked by private E-mail, these panels are standard 12"X 19" and have three standard notches on each side at 1 1/2" from the top and the bottom and one in the center of the edge.

73 de Pete WA5JCI

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Spencer Petri <spetri@e-tex.com>
Subject: Humongus Bargain!
Message-ID: <m0vLcf2-0002DdC@e-tex.com>

Hello Bargain Buyers,

UPS delivered a batch of 12" rack panels today. These panels are 1/16" thick, aluminum one side, painted white the other side. These panels are stronger than I figured they would be. Need'em stronger, use 2 together. Need'em shorter, hello shears.

The best part, 3 for \$8.

Fertik's Electronics
5400 Ella St.
Philadelphia, PA 19120

215-455-2121

73 de Pete WA5JCI

"no connection to nothing"

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: sinned@VNET.IBM.COM
Subject: LINK Type 50 Info request
Message-ID: <199611072241.QAA15947@uro.theporch.com>

Does anyone have any manuals/diagrams of old Link gear? This 200lb anchor is tagged as "type 50-UFSED.7a". It appears to be a WW2 era 40mc FM rig. Parallel 807 finals, separate xmt/rec/ps chassis in single large cabinet. Loctal tubes throughout. 816's for the DC supply.

I think this would make a nice 10m CW/FM BA with a bit of conversion. Of course I will buy your book or pay copying costs and with a bit of luck I'll have it done by the next sunspot peak!

Thanks,

Dennis W5FRS
sinned@vnet.ibm.com

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Looking for Boonton 63H and 75B-S8 information
Message-ID: <32815B38.6B86@millcomm.com>

L. Mark Pilant - MS:ZK03-4/Y02 DTN:381-1529 wrote:

>
> Well, I have two additions to my "home lab" :-) A Boonton 63H Inductance bridge
> and a 75B-S8 capacitance bridge.
>
> I'm looking for some instructions and/or pointers to manuals. (I've started the
> search, but if someone knows where I can find them, that'd be great.)

Well this is great. Mark helped me out with my Tek 564B problem a few weeks ago and now maybe I can help him. I have 3 Boonton beauties, including the 63H inductance bridge.

For those of you not familiar with them, these are pinnacles of the boatanchor craft. Incredible construction, silver plated everything, precision machining all over the place, and heavy enough to -really- be used as an anchor. These bridges will measure something on the order of .001 uH !!

I have the 63H, a 75A-S8 cap bridge, and a 33A-1 RF admittance bridge. I've located a couple manuals, but haven't bought them yet.

Mark, let's talk about splitting the cost to buy the manuals. Now here's simplified instructions for figuring out the inductance unit:

On the 63H, make a shorting plug with a dual banana and short piece of heavy wire. Make sure the 'added' inductance and resistance rotaries are switched to '0'. Put the range rotary on 'X1'. Set the freq to, say, 5 khz. Crank the inductance and resistance dials to '0'.

With the terminals open, you should have a high indication on the meter. Adjust tuning control, etc. to peak meter reading. Note: On mine, the freq and meter controls are a little scratchy. If you don't get any reading, try wiggling the controls and/or rapping the thing on the left side...

OK, put the shorting plug on the terminals, and adjust the L and R zeroing knobs (right edge) to null the meter. Now you should be able to replace the shorting plug with a 4.7uH inductor and measure it to the last nanohenry.

I use this thing all the time in my work of designing switching power supply inductors/xformers. It's neat to check it at one freq, then crank up the freq and check it again. The inductance changes and the resistance goes way up, just like the books all tell us it will. Amazing huh?! (bridge is measuring -AC-resistance, of course. Very useful, and not something your average DVM or Simpson will do...).

By the way, if anyone is interested, I'm getting an HP universal bridge in a week or so, so I don't think I'll need my Boonton's anymore. If anyone wants them, let me know and we can haggle. First I have to see what condition this HP is in....

In regards to the cap bridge, either I don't know how to work it, or it's broken. The manual was \$40 or so, and I've just never gotten motivated enough to shell it out. Mark, perhaps if we're splitting it, it may make sense now. I can have it copied at work.

The Admittance bridge might be of real interest to a radio nut. But I'm just starting in RF and don't know how to use it yet, and don't know whether it works. It powers up OK and 'does stuff', but I'm too ignorant to interpret it. It sure is a gorgeous piece of craftsmanship though!

It's in pristine condition, and the L and C bridges are also very good. Some 'stuff' on cabinet or panel which looks like it should clean off OK. I've never gotten around to 'restoring' these pieces. The inductance bridge I just use, and the others I've sorta ignored (sorry guys, don't hit me!).

Mark, let me know if I can answer anything else.

PS: One of 'em had a bad VR tube as I recall. I just pulled it out and soldered 3 36v 1 watt zeners in series across the two socket pins. Works like a champ.

Richard
--

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
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+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: spr@earthlink.net (Scott Robinson)
Subject: Meter repair services
Message-ID: <v01530501aea6d6daf93b@[153.34.196.220]>

Folks,

These are the sources I know of. I have only used Ye Olde meter cellar myself. All comments came with the name from other customers.

Ram Meter
1903 Barrett
Troy, Mich. 48084
ph. 810-362-0990

All they do is Meter repair.

ALSO:

Ye Olde Meter Cellar
Leonard W. Cartwright
879 Russet Drive
Sunnyvale CA 94087

(408) 739-6025

A few days ago someone asked about meter repair. I've recently been in contact with a company that anyone with meter repair needs should know about:

Standard Meter Laboratory
236 Rickenbacker Circle
Livermore, CA 94550
Phone: 510-449-0220

I called for repair information on an old Simpson 260 I retrieved from a abandoned radio repair shop. They were willing to take it on, no sweat. My earlier contact with them was in the 80s when they were located in San Francisco. I brought them the rudder position meter from the Greenpeace ship Rainbow Warrior (the one later blown up by the French). Not only was the meter old, it was English to boot. "No problem, we'll have it for you within the week." And they did.

I trust they have kept that same standard of capability. I'll let you know what they say about the Simpson, which was the victim of the dreaded leaking battery syndrome.

Dick Dillman
WPE2VT N6VS ex-WA2BJK
<ddillman@igc.apc.org>
Collector of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

I recently visited Standard Meter Lab, Inc. in Livermore, Ca. These people know a lot about meters in general. They are able to reproduce meters of just about any style and shape. They can create meter face plates with a CAD program. They have a photographic machine that creates a negative and a method of creating a positive plate that can be inked to make an exact replacement.

I was able to have a meter made to original specks that was otherwise not replaceable.

They have the necessary shunts and can acquire thermocouples that are appropiate to the application.

I was shown around their work room and even was able to see their clean room. Lots of very expensive test equipment.

I talked to Walt Homick and he understands the problem we face trying to make everything perfect.

They are at 236 Rickenbacker Circle in Livermore--94550.

510-449-0220---Fax 510-449-1704

A day well spent!

Regards,

Scott Robinson

spr@earthlink.net

"Wait'll he puts on his stereo headphones..."

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996

From: BEN NOCK <106312.1035@compuserve.com>

Subject: Military manuals available

Message-ID: <199611071913_MC1-BCF-2225@compuserve.com>

Hello again. Someone asked me about a particular military manual, but I have lost the message sent to me, modern technology ! So if I have not answered you, call me again. Sorry.

So to recap, I can supply military manuals for most British War time, and later, sets. Let me know what you require and I'll try and help.

regards all,

Ben G4BXD

MILITARY WIRELESS IN THE MIDLANDS

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996

From: k7yha@juno.com (Richard H. Arland)

Subject: MORADCO Conelrad Monitor Schematic needed

Message-ID: <19961107.050503.8239.1.k7yha@juno.com>

Gang:

Still need a schematic for a MORADCO conelrad monitor (circa late 50s early 60s) model CM-3. Thought that this would be a kick to put on the

table with the SX-101A/HT-32A station.....HOWEVER, I need to get it working first. Anyone got the schematic for this little beastie?

73 rich K7YHA (still...)

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: n.o.s. ceramic trimmer caps fs/trade
Message-ID: <2.2.16.19961107124704.3a271c4c@fvmail.com>

these are new old stock Arco #304M 100-550pf ceramic trimmer caps...
10 or more \$1 each, plus shipping (i.e. 10 @\$1ea=\$10+\$3 priority mail=\$13)
i have approx. 150 or 160 of these available.....

anybody interested?

=====]-[->

Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: <http://www.jacksonmi.com/hammarlund>

HAMMARLUND LITERATURE WANTED

WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT

=====]-[->

Boatanchors: the list: listproc@theporch.com.....subscribe boatanchors
<your name>

the news group: rec.radio.amateur.boatanchors

new group: ham-am@Listserv@ucsd.edu....Body: add ham-am

ME AND MY WIFE:

between the two of us, we know everything, what i don't know, my wife does,
and what she don't know, won't hurt her...8-) ssssssh!

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: w4bld@juno.com (Robert B. Kerby)
Subject: Need Info on CE MM-2
Message-ID: <19961107.173242.5071.0.W4BLD@juno.com>

Gentlemen of fire - I have just acquired a Central Electronics RF
Analyzer model MM-2. I have no documentation except that it monitors RF
and Audio. Does anyone have a schematic for this dude? Thanks again!!
Bob

Robert B. Kerby - W4BLD
Post Office Box 991
Waynesboro, VA 22980 - w4bld@juno.com - (540) 942-4356
I collect Morrow, Elmac and Gonset. I frequent the AM Swap Net on 3885
on Thurs
at 1930 and 3865 nets on Wed and Sat at 2000. Try the DX-60 Net on 7290
Sun at 1400!

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: NOS EF JOHNSON R.F. CHOKES FS/TRADE
Message-ID: <2.2.16.19961107122438.1b97afa0@fvmail.com>

have the following:

E.F Johnson R.F. chokes #760 6.8uh @ 250 m.a.
these are new old stock <nib> 10 boxes for \$28 shipped
AES gets \$4.70-\$5.20 for thier chokes with max of 160ma
i have 68 boxes available.....

anybody interested?

=====]-[->

Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
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=====]-[->

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new group: ham-am@Listserv@ucsd.edu....Body: add ham-am

ME AND MY WIFE:

between the two of us, we know everything, what i don't know, my wife does,
and what she don't know, won't hurt her...8-) ssssssh!

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: JIM_ALLEN@HP-Cupertino-om5.om.hp.com
Subject: Re: NOS EF JOHNSON R.F. CHOKES FS/TRADE
Message-ID: <H000030e0727b98c@MHS>

Robert,

I'll take 10 boxes.

Regards,

Jim

----- Reply Separator -----

Subject: NOS EF JOHNSON R.F. CHOKES FS/TRADE
Author: Non-HP-boatanchors (boatanchors@theporch.com) at HP-ColSprings,mimegw5
From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: nos Hammarlund manuals \$10 ea + ship
Message-ID: <2.2.16.19961107163446.23970f34@fvmail.com>

i still have a few of these left (altho i sold a bunch)
at \$13 each shipped, for new old stock manuals, if nothing else
you should pick up 1 or so, for trade material..
you can't but copies for this.....
whats left:

HQ-145A (10)
HXL ONE AMP (1.5KW VERSION) (8)
HX-50 (13)
HX-500 (22)
HA-4 (1)
SR-400 (1)

=====]-[->

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between the two of us, we know everything, what i don't know, my wife does,

and what she don't know, won't hurt her...8-) ssssssh!

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: ZI076@ccmail.ceco.com
Subject: Old BA Era Callbooks
Message-ID: <9610078473.AA847396404@ccmail.ceco.com>

The previous posting about W0AH has me wondering about the history of my new call W7LDS. Anyone with a 50's era callbook care to look it up for me and pass along the information via private e-mail? It would be interesting to find out who and where the original holder was, and maybe then see what kind of BA gear he/she had.

Chuck (ex ai3o)

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: paul Veltman <veltman@netcom.com>
Subject: Re: Old BA Era Callbooks
Message-ID: <Pine.3.89.9611071445.A5391-0100000@netcom14>

The QCWA (Quarter Century Wireless Association), an organization of those of us who bought our boatanchors when they were new radios, has a fine collection of Callbooks for verifying membership applications.

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: LOSCONI <losconi@losconi-tube.com>
Subject: Re: old tube VY2

Dear Mr Pentti Haka!

Thank You for Your reply for VY2. I give You more information about our action. I have good kontakt to the tube maker TESLA Slovakia but I am authorised dealer of TESLA HI-END power tubes for audio amps.

With these firm we can produce the VY2 but we need a quantity appr 30 tausend psc with it the price will be DM 20,-/pc netto. Now I collect the orders till and of november. If I have these Quantity I start the produktion and in May 97 can I sell it. /Pardon for the bad english but I speak hungarian german and slovak, but no finish/. If You have a fax nr. I fax You the order-formula in german what is now to find in the german collector news paper "Funkgeschichte"

If You can help me to realize these "one time action" therefore to make a big recruitment in Finland so I'll be very happy and grateful.

If these aktion is succesful so we will start the VCL11 to "Little H."

Best regards
Robert Losonci
Fa:LOSCONI
Fleschg.34.
A-1130 Wien
Tel:+43 1 876 78 83
Fax:+43 1 876 78 8329

----- Forwarded Message Ends -----

----- Pentti Haka -----
----- OH2TC -----
-- Pentti.Haka@Mikrolog.fi --

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: LOSCONI <losconi@losconi-tube.com>
Subject: Re: old tube VY2

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Thank You for Your reply for VY2.I give You more information about our aktion. I have good kontakt to the tube maker TESLA Slovakia but I am authorised dealer of TESLA HI-END power tubes for audio amps. With these firm we can produce the VY2 but we need a quantity appr 30 tausend psc with it the price will be DM 20,-/pc ntto .Now I collect the orders till and of november.If I have these Quantity I start the produktion and in May 97 can I sell it./Pardon for the bad english but I speak hungarian german and slovak,but no finish/.If You have a fax nr. I fax You the order-formula in german what is now to find in the german collector news paper"Funkgeschichte" If You can help me to realize these "one time aktion" therefore to make a big rectruiment in Finland so I'll be very happy and grateful. If these aktion is succesful so we will start the VCL11 to "Little H."

Best regards
Robert Losonci
Fa:LOSCONI
Fleschg.34.
A-1130 Wien
Tel:+43 1 876 78 83
Fax:+43 1 876 78 8329

----- Forwarded Message Ends -----

----- Pentti Haka -----

----- OH2TC -----
-- Pentti.Haka@Mikrolog.fi --

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: James Griffith <GriffithJ@ricks.edu>
Subject: Opinions on Hallicrafters HT-45 Amp.
Message-ID: <s281b2f4.001@mercury.ricks.edu>

Hellow to all. This is my first post on this list. Have been a ham for 36 years, and decided that heaven is better, at least I can repair it. I spent all my life in electronics. I can fix hundreds of things no longer made, and very few now made, if I could fit my fingers in the equipment. There is no fun in new equipment for me.

I have a very clean and working HT-44, SX-117 with matching speaker and power supply. I do not know any thing about the HT-45 matching amplifier, and was wondering if the amp had a reputation, good or bad. And is the tube, or replacement is available. I think it is a 3-400 or something close to that.

Some amps are well known duds, but I just do not know about the HT-45. Is it worth the effort to complete the matching set on my desk or go on to another amp.

Jim, WA7NDD
griffithj@ricks.edu

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: QSK SIGMA Relay Info Req.
Message-ID: <32818B3F.4E04@millcomm.com>

Mike Maloney wrote:

>
> Does anyone have an older
> catalog that tells what type of relay this is?: SIGMA 65FP1A-12DC I don't
> find SIGMA listed in any of my more recent catalogs...the company may be
> history.--

Hi Mike,

I may be way off here, but there was a well-known SIGMA that made high class stepper motors in the 50's through 70's. They were bought out by Pacific

Scientific (which is in Illinois, go figure...). Anyway, PacSci may've sold off the relay division, but maybe they can tell you who to.

This is all assuming that it -was- the same company. But since they're both made of iron and copper, and both capitalized the whole name, well....

PacSci number is: 815-226-3100 Good luck!

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Dave Hockaday <wb4iuy@ipass.net>
Subject: R-391a
Message-ID: <199611071245.HAA04422@passport.ipass.net>

I've recently acquired a Collins R391A rx that is in need of a little TLC.
Does anyone have a copy of the alignment instructions and schematic for this beast?

Thanks,
Dave Hockaday WB4IU Y
wb4iuy@ipass.net

<http://www.ipass.net/~hockaday/>
<http://www.ipass.net/~wb4iuy/>
<http://www.ipass.net/~teara/>
<http://www.geocities.com/TheTropics/3349/>
<http://www.RTPnet.org/~fcarc/>
<http://www.RTPnet.org/~rdrc/>

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Karl-Arne =?ISO-8859-1?Q?Markstr=F6m_08?= 6017171
Subject: Re: Re: Distributed 4CX250 amplifier
Message-ID: <B59IOG3GGPW*/R=A1/R=MRGST/U=KAM/@MHS.stoa.mobitel.telial.se>

Hello Boatanchorites!

Several years ago, I came in contact with a Marconi (UK) 1 kW broadband amplifier using about 40 4CX250B's.

It was used as PA in first-generation frequency-hopping and spread-spectrum military communications.

Also, broad-band distributed amplifiers ("Kettenverstärker") with 12 4CX250B's were used as predrivers in the Telefunken 100 kW HF transmitters that were installed for point-to-point service in Sweden in the mid 1960's.

High-powered BA distributed amplifiers is an idea that looks good on paper but, as I remember them, created all sorts of reliability hassles, especially when the tubes lost emission or went soft.

73/Karl-Arne Markström SM0AOM

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Receiver noise floor - How to measure?
Message-ID: <32818F37.3F2D@millcomm.com>

mknudsen@lucent.com wrote:

> According to a 1947 (!) QST article on building and using
> a noise generator, the proper signal to use for measuring the
> noise floor is -- noise!
>
> Yes, first with nothing connected to the antenna (except a matching
> dummy resistor, or your noise generator but turned off),
> you turn up the volume to get a certain audio power reading.
> Then you crank up the diode current on your noise box till that
> audio voltage goes up 41%, meaning twice the power or +3dB.
>
> Then, you hope, from the diode current you can tell how many
> uV or fW of noise you put into the rx, and that's your noise floor.

I too, have always read that this is how noise floor is measured, with a noise gen, not with a modulated signal. Perhaps the mod signal is actually for measuring S to N ratio, not noise floor. Probably another

noise semantics mess! National Semi has a great app note on noise in their linear databook, that's funny as hell. The whole first paragraph is nothing but various noise terms, then they say 'what does it all mean', then they tell you. Good app note.

> Amazing what you can learn from an old QST! BTW, the article uses
> some old tx triode as a diode. Turns out you must use the ancient
> direct-heated thoriated tungsten filament tubes, not the later ones
> with coated cathodes -- the latter put out too much extra noise that does not
follow the diode noise/current equation and can't be calibrated.

I'm not sure a special diode is even required for this test. As I understand it, you use any noise source, and vary the level simply with a step attenuator. I don't think you have to worry about varying the diode current unless you're looking for absolute level information.

Hope this helps...

--

Richard Hager

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+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: Michael Tallent <mtallent@concentric.net>
Subject: RME VHF-126
Message-ID: <3282412A.7A30@concentric.net>

Hello:

I have been reading the mail for about 2 months now, paid my \$12, and now I'm ready to made my first "post".

I have a series of BA projects in line on the shelf- R390, CE200V, SX62. Just finished the Apache I got from Gene Rippen a few months ago.

I got a RME VHF-126 at Livermore last Sunday. I have not yet found a manual through the normal sources. Does anyone have one they could copy for me? The inside of the unit (serial 316) has the call "WA6ZNJ" printed. I checked the current database but had no listing. Does

anyone know how I might find out who had this call in the past, I don't have any old call books.

The cabinet is badly scratched along with the front panel, but the inside appears to be only touched by time and humidity. I hope to restore it and use it alongside the RME-4350 that I have. Would REALLY like to find the 4301 SSB detector, anyone have one?

Got my license in 1959 as K4ZHI in KY. then W9HWX in Indiana for RCA.

Will pay any expense and thanks for your help, this is a great group of resources.

I now have a local call for access, amazing as nearest supermarket is 25 miles and the nearest Radio Shack is 55 miles. Enough rambling.

73's Mike W6MXV

Michael Tallent
707-984-8283 707-984-8230 fax

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: cmthomp1@facstaff.wisc.edu (Clark M. Thompson)
Subject: Re: SB-301/401 opinions
Message-ID: <199611071718.LAA54508@audumla.students.wisc.edu>

Thanks to everyone who responded. Opinions were unanimous that \$325 was too much to pay. You gave me the strength to say no! I'll bide my time and wait for a better deal (preferably locally). Lord knows I already have enough radios to keep me busy!

Maybe we should start a "Boatanchors Anonymous" for the hopelessly addicted. Call it BAA....

73,

de Clark, KD9QI

cmthomp1@facstaff.wisc.edu

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: cmthomp1@facstaff.wisc.edu (Clark M. Thompson)
Subject: SB-301/401 opinions

Message-ID: <199611071523.JAA99076@audumla.students.wisc.edu>

Hi Gang,

I have the opportunity to buy "mint" condition SB-301/401 and SB-600. The 301 has all three filters. The price is \$325.

I'm interested in playing with some Heath gear. What are some opinions of these rigs? Is the price too high? (It includes shipping)

Thanks in advance.

73,

de Clark, KD9QI

cmthomp1@facstaff.wisc.edu

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996

From: Chuck Penson <penon@sci.mus.mn.us>

Subject: Re: SB-301/401 opinions

Message-ID: <32823847.5BBC@sci.mus.mn.us>

Clark M. Thompson wrote:

>

> Hi Gang,

>

> I have the opportunity to buy "mint" condition SB-301/401 and SB-600. The
> 301 has all three filters. The price is \$325.

Clark,

I think that price is a little high. The average price for a pair of these things is maybe...\$150. I guess if they were in truly mint condition I would think about something a little higher...but \$325 seems a little out of line.

--

Chuck Penson

WA7ZZE

penon@sci.mus.mn.us

612.221.4510 voice

612.224.5092 fax

<http://comped.sci.mus.mn.us>

Standard Disclaimer: The opinions expressed are etc. etc. ...

"Nothing is too wonderful to be true" -- Michael Faraday

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: stuff sold
Message-ID: <Pine.ULT.3.95.961107112716.23675A-100000@admin.aurora.edu>

DuKane amplifier and Collins aircraft receiver have been sold.
Thanks all.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "Edward J. Zeranski" <ejz@nosc.mil>
Subject: Tucker
Message-ID: <2.2.32.19961107224511.00d04a08@marlin.nosc.mil>

Just got a call from Esystems, may be in Dallas/Garland next week!
Is Tucker selling off the "old stuff" from their Garland store???

Ed Zeranski ejz@marlin.nosc.mil, work
ezeran@cris.com home
Wooden Boats, Tube Receivers, Rusty Old Trucks, The Good Stuff!

This is a private opinion or statement and is nobody's fault but mine. No person, employer, or govt. should try to take credit for it!

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "David L. Thompson" <thompson@mindspring.com>
Subject: Tucker web page
Message-ID: <199611072045.PAA04300@answerman.mindspring.com>

In the announcements last month about Tucker selling their amateur radio business to HRO there was mention of most of the classic BA gear being sold outside the HRO agreement
(guess Bob W6RJ is not into BA). The Tucker spokesperson said that their

web page would be full of bargains and sell offs in November.

I checked the web page last week and today and except for amateur radio being removed from several selections there was no change. There is a message about an important announcement about amateur radio at the top of the home page, but its not addressable (in layman terms you can't click on it). The classic pages are still the same items listed since early last Spring.....now I understand the guy who made the press announcement is among those who left. Anyone near Dallas give us an idea if they still plan a sell off?

Dave K4JRB

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: wbird@dns1.ala.net
Subject: Re: Tucker web page
Message-ID: <M.110796.164023.18@ala.net>

Dave: I am not near Dallas, but I did some calling and this is all I could find out. 1. There is an 800#. The one in QST will be forwarded to HRO. The number is: 1800-527-4642. 2. The lady I spoke with said that all she was being told was that the list would be out the first or second week of November. 3. Whenever it does, the mad rush begins! Gud luck! Willis T. Bird (W4WUL)

-----Reply Separator-----
In the announcements last month about Tucker selling their amateur radio business to HRO there was mention of most of the classic BA gear being sold outside the HRO agreement (guess Bob W6RJ is not into BA). The Tucker spokesperson said that their web page would be full of bargains and sell offs in November.

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Dave K4JRB

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
Subject: vacuum cap's fs/trade
Message-ID: <2.2.16.19961107115046.099ff912@fvmail.com>

have the following fs/trade/offers:

Jennings: 1000 pf fixed 10,000 volt \$75 shipped
Jennings: 75 pf vacuumm variable 20,000 volts \$75 shipped
Jennings <VC-50> 55 +2-5mmfds 20,000 volt \$30 shipped
2 - WE 50uuf 5AMF 5,000 volt \$23 shipped
Aircraft Radio corp. <GE> 100mmf voltage ? \$18 shipped

anybody interested?

=====]-[->

Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: <http://www.jacksonmi.com/hammarlund>
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT

=====]-[->

Boatanchors: the list: listproc@theporch.com.....subscribe boatanchors
<your name>
the news group: rec.radio.amateur.boatanchors
new group: ham-am@Listserv@ucsd.edu....Body: add ham-am

ME AND MY WIFE:

between the two of us, we know everything, what i don't know, my wife does,
and what she don't know, won't hurt her...8-) sssssh!

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: KWDouglas@aol.com
Subject: Re: Vacuum Systems (HB Tubes)
Message-ID: <961107081716_1847735005@emout10.mail.aol.com>

Mike Knudsen said:

>

>BTW, I thought having a CRT implode in your arms ahd more serious

>consequences. Did you guys wear protective clothing? How long
>before you could hear again? 73, mike k aa9rg
>

Thanks for your comments. We were SUPPOSED to wear long sleeved shirts, thick leather gloves, extra long full face shields (also protected our necks), a sleeved apron thingy & use a light-weight blanket wrapped around the CRT. That would usually prevent all but an occasional minor cut. More likely was a good thump & bruising from a piece of the thickest area of the CRT faceplate that happened to get a little extra acceleration from the implosion.

The hottest part of summer would sometimes see some of the more macho kids working without a shirt when the supervisor wasn't around. Fortunately, no permanent injuries were sustained. I don't recall more than a handful of emergency room runs (& one of those was for a piece of glass that made its way around the face shield and into an eye). It was mostly the shop first aid kit that patched up the walking wounded. This was all prior to "mother" OSHA being around to "protect" us from ourselves.

I don't think I sustained any permanent hearing loss and I only vaguely remember my ears ringing. Probably the hearing returned by the time the shock had worn off and you had all the glass shards vacuumed out of your hair & clothing. I can remember being told that if a CRT imploded to immediately hold your breath until you had walked out of the area. After the phosphorus cloud had settled we would go back in with push broom and shovel.

Kent, K9JCR
KWDouglas@aol.com

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
From: "Paul Bock" <pauboc@smtplink.pulse.com>
Subject: Vibroplex "Presentation" top plates
Message-ID: <9610078473.AA847393273@smtplink.pulse.com>

After checking my own, I determined that the top plate is, in fact, removable if the nameplate is removed (plus all the top parts, of course). So I stand corrected, it is *NOT* glued down and thus can be removed and separately replated to restore its original stunning appearance, if you're into that sort of thing. ;-)

However, a word on the nameplates: At some point, Vibroplex stopped drilling the two plate stud holes all the way through the base; in fact, they simply glued on a plastic nameplate starting in the '80s. If you look at a new one from Mobile, AL, it has a brass

nameplate attached with two studs but no holes are in evidence in the underside of the base. Thus, removing the two studs is a trickier proposition because you can't just tap 'em out with a thin steel punch, you'll have to gently pry them up *without* damaging the nameplate. The potential for visible damage to the bug is worse than with the old pre-1940 instruments with the two bent-over nails coming out of the bottom.....

It can be done; just be careful when you do it. Or, leave the gold top plate "as is" and chalk its appearance up to "character marks" (like a well-worn thumbpiece).

73,

Paul, K4MSG

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: william wiggins <bwiggg@worldnet.att.net>
Subject: wanted: PP-2352/UR TRC-75 inverter manual
Message-ID: <19961108010248.AAB28095@LOCALNAME>

I am looking for the manual to the PP-2352/UR 28v to 110v 400 cycle inverter that is part of the collins TRC-75 radio set.

Billy

Bwiggg@worldnet.att.net

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: MODSTEPH@ACS.EKU.EDU
Subject: RE: What's happening? Lets make the BA/GB net happen.....
Message-ID: <01IBJJDCSAY6003HY2@ACS.EKU.EDU>

I agree about earlier times - particularly for those of us (me, e.g.) who are in the Eastern time zone...

And while I may not hit the exact time, as a matter of course when I first get on the air I try 7050 first, whatever the time. Viking working very nicely there.. :)

73, A1 N5AIT
modsteph@acs.eku.edu
Allan Stephens
Richmond, Kentucky

From boatanchors@theporch.com Thu Nov 7 04:06:54 1996
From: paul Veltman <veltman@netcom.com>
Subject: Re: Who held my callsign?
Message-ID: <Pine.3.89.9611062014.A22665-0100000@netcom19>

Actually, when the dust settles, there may be only 3 or 4 WA6 calls left. One will be mine.

Actually, I've had good luck with it on CW. For some reason, people can pick it up easily. Or maybe it's the surplus VOA transmitter. ;-)

73

paul WA6OKQ

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
From: "John H. Dilks III" <oldradio@worldnet.att.net>
Subject: Re: Who held my callsign?
Message-ID: <19961107222910.AAA629@LOCALNAME>

At 01:16 AM 11/7/96 +0000, you wrote:

>I am also a lucky new holder of an old callsign, and if anyone knows
>about its prior holder, I would be grateful for any data. Thanks and 73,
>

>Stan, now W2ST (formerly W6TJS)

>

>

Stan,

W2ST Robert F. Gurney 65 Douglas Court, Huntington Station, NY

Source: Anateur Radio Stations of the United States
Edition of :: :: June 30, 1931

73 & Good Luck, John Dilks, K2TQN

```
.=====.  
| 73's from John H. Dilks, K2TQN, oldradio@worldnet.att.net |  
| .^ . Collector of early Wireless Radios & Books. .^ . |
```



```
| ( ~ ) Always looking for well-made Home-Brew Radios. ( ~ ) |
| ____[_]____ Member of the New Jersey Antique Radio Club ____[_]____ |
| Meets the second Friday of each month at 7:30 p.m. in Freehold, NJ |
|=====|
| NJARC is on the WEB - http://www.globalent.net/oldradio |
| Bringing Radio History to Everyone. - Check us out! |
|=====|
```

From boatanchors@theporch.com Thu Nov 7 11:51:38 1996
 From: Roland S Geter PhD <wb6lna@primenet.com>
 Subject: WTB: Collins SC-101 or 312A-1/2
 Message-ID: <199611071011.DAA00795@primenet.com>

Will pay cash and shipping for units in any condition working or not.

Roland S Geter PhD - WB6LNA/7 ex W2RPQ
 Internet: wb6lna@primenet.com
 roland@primenet.com
 ax25: WB6LNA@kc7y.az.usa.noam

```
|=====|
| Visit our Web page for brand newly manufactured |
| Collins Radio Accessories and tell others. |
| |
| http://www.primenet.com/romad/collins.htm |
|=====|
```

From boatanchors@theporch.com Thu Nov 7 19:52:27 1996
 From: Chuck Penson <pson@sci.mus.mn.us>
 Subject: Re: WTB: Heath HW-18
 Message-ID: <3282373F.3863@sci.mus.mn.us>

Jeffrey Herman wrote:

```
>
> Heath built a 160m-only xcvr, the HW-18. I understand there were
> three versions, two of which were xtal controlled for CAP and
> MARS; the third version was VFO'd for general ham use.
```

Jeff,

All three of the HW-18 series radios were xtal controlled. No VFO versions were ever made and no VFO accessory was made either. (The

"singlebander" rigs (HW-12 et al) were basicly the HW-18 with a VFO).
The HW-18-3 is the 160m version and is exceptionally rare as it was made
for less that two years.

There was a great article in QST just a few months ago re a VFO kit that
could be configured for virtually any rig and could be made to work with
the HW-18...can't remember just what issue. Maybe someone else can fill
in the blank.

Good luck!

--

Chuck Penson
WA7ZZE

penson@sci.mus.mn.us
612.221.4510 voice
612.224.5092 fax
<http://comped.sci.mus.mn.us>

Standard Disclaimer: The opinions expressed are etc. etc. ...

"Nothing is too wonderful to be true" -- Michael Faraday